CITY OF LODI
INFORMAL INFORMATIONAL MEETING
"SHIRTSLEEVE" SESSION
CARNEGIE FORUM, 305 WEST PINE STREET
TUESDAY, OCTOBER 21, 2003

An Informal Informational Meeting ("Shirtsleeve" Session) of the Lodi City Council was held Tuesday, October 21, 2003, commencing at 7:04 a.m.

A. ROLL CALL

Present: Council Members – Beckman, Hansen, Howard, Land, and Mayor Hitchcock

Absent: Council Members – None

Also Present: Deputy City Manager Keeter, City Attorney Hays, and Deputy City Clerk Perrin

B. CITY COUNCIL CALENDAR UPDATE

Deputy City Clerk Perrin reviewed the weekly calendar (filed).

C. TOPIC(S)

C-1 "Enhancing electric reliability through telecommunications"

Deputy City Manager Keeter reminded Council that during the budget process staff reviewed the operating budget proposals and the capital improvement projects. One of the capital projects was for a fiber optic system that would be overseen and installed by the Electric Utility Department, but would also have potential for enhancement City-wide.

Electric Utility Director Vallow stated that for the past five years staff has been talking intermittently about fiber optics and communications. This was originally a feature of the transmission line that was to be built between White Slough and Lodi. This line has since been put on indefinite hold; however, the need for the communication system still exists. At the time staff prepared the capital financing, funding was included for communications, which was a combination of both fiber optic and microwave. Staff has continued with planning on the fiber optic and views this not as a new enterprise, but rather as a value-added service to existing customers.

With the aid of overheads (filed), Electric Services Manager, Mel Grandi, provided a general overview of the project and how it benefits the Utility and the community. Historically, staff retrieved data by going to the job site to read meters and equipment values. If staff needed to know what was happening at any particular time, it would send someone to the substation to see what the peak demand, or consumption, was during the day. That migrated into protective relay monitoring, which relayed an event or overload at a substation immediately through data communications. As years went by, that type of system upgraded through technology into monitoring the data itself, meaning staff could read the amps and volts at a substation and see what was happening on a real-time basis; although, the control was limited to selecting advice remotely without seeing any feedback. Present day communications operates on the SCADA (Supervisory Control and Data Acquisition) system, which does a fairly good job of monitoring data and reporting unscheduled events. The only negative result is that data stream from the remote terminal units, which is at the substation, does not have adequate capacity to get real-time data out of the units, nor does it have the ability to read the relays, which would report the precondition of the fault and the after condition. To view this, staff must go to the substation and download the information by hand.

Staff routinely monitors the breakers to see what is happening with the equipment and does preventative anticipation to identify problems before they happen. It is extremely important to the Utility that power is restored and back on line quickly. Typical power restoration for the overhead system is within an hour, and the underground system is under two hours.

The communications system is extremely critical, as it enables staff to identify problems, enhance the system, and control it. Fiber optics would provide increased data collection, giving staff more detailed information that can be used for planning, equipment replacement, and power restoration.

Mr. Grandi displayed a sample of a single fiber optic, which is about the size of a hair, as well as a cable, which has 72 fibers. Within each cable, there are 6 tubes, and in each tube there are 12 fibers. It is fairly lightweight and would have minimal impact on the poles. The system is not affected by electric or magnetic fields so it is ideal for substation use, it provides higher transfer rates of data, and there are several options of what information it can accommodate (e.g. video, data, voice).

Electric Utility's first goal is to interconnect the four substations (and ultimately the fifth one, which will be on Lower Sacramento Road and Kettleman Lane) in a loop configuration to facilitate the information transfer between the substations. Currently, the system is radial, which means if there is a failure of a phone or data line between any two points, the system is down to that station. With the continuous loop configuration, if there is a cable failure at any point in the loop, the system will still operate, which is called self healing, so there is no down time or loss of communication or data. This will increase the data transfer between the substations approximately 100 times and offer real-time system monitoring of the protection system.

Mr. Vallow stated that there is no indication from either the federal or state level that it will do away with a market structure for power, and it is getting to a point (five or ten years from now) where real-time pricing signals are going to have to be given to customers.

Mayor Hitchcock stated that a couple of years ago at the American Public Power Association conference there was a lot of discussion about using this for Digital Subscriber Line (DSL) service, but since then not much has been said about it. She questioned what the current direction is in that area.

Mr. Vallow replied that the City will be able to provide other value-added services to residential or commercial customers like DSL or Internet connectivity; however, it has not been a priority, due to the issue of competing with private carriers.

Mayor Pro Tempore Howard pointed out that there are a number of municipally-owned electric services in Southern California and throughout the United States who are now providing their communities with DSL and other types of phone services, to which Mr. Vallow agreed. Mr. Vallow added that staff has been talking with the Chief of Police regarding real-time imaging to enhance police services.

Mr. Grandi demonstrated that fiber optics could connect City Hall to the Municipal Service Center and also has the capability to add on the fire stations for video training or to connect Lodi Memorial Hospital or other entities.

In the near future, staff will return to Council for authorization to proceed with the project, which would include materials procurement, testing equipment, fiber, and pole line hardware, and authorization to appropriate and transfer the money into the operating fund. The deployment of the fiber is listed in phases. The first year will be two phases, which would connect Industrial Substation to Henning Substation and then connect Henning Substation to McLane Substation. In the second year, staff would connect McLane Substation to Killelea Substation and then Killelea Substation to Industrial Substation, thereby completing the loop.

Mr. Vallow stated that for about the last 18 months staff has been learning the engineering side and proposes to do this project in-house, integrating it with its current operations, as opposed to creating a brand new operation.

Mr. Grandi reported that the project cost as originally budgeted is $655,000 for the first year and $100,000 for the second year.

Mr. Vallow stated that if this system stops even one station outage, from the customers' perspective, the payback is immediate. Any time one station goes down it costs nearly $1 million to the commercial and industrial customers in the City of Lodi.

Council Member Land questioned if there would be a cost savings from the employees that would not have to be positioned at the different substations during the critical times.

Mr. Vallow responded that this would not do away with the need for people, but it would help immensely with diagnosing problems as or before they occur, so the ability to schedule maintenance ahead of time, rather than an emergency restoration, would be a cost savings.

Council Member Hansen questioned whether in the long run it might be more advantageous to go with wireless technology.

Mr. Vallow explained that there is not a single technology that accomplishes everything for the community, but a combination of technologies would. The City is currently utilizing wireless technology and will look into integrating it with the fiber system, as well as with the power-line carrier system. The City will be using three compatible systems that work for all different circumstances.

Council Member Hansen asked if wireless would take care of all three, to which Mr. Vallow responded that it probably could, but the fiber system is the most reliable from a utility standpoint, and it allows integration with other technologies, including wireless, in the future. Fiber optic is the most dependable because of its track record in the utility industry, and it has been commercially available for at least 12 years.

Council Member Hansen stated that at some point government entities are going to have tough decisions to make regarding the public versus private sector issue, because technology is forcing it. There has already been a merge in medical transportation. Mr. Hansen felt the City should not compete with private entities; however, the decision is whether or not the private sector can provide the service to the public at the same cost the City can.

In response to Council Member Hansen, Mr. Grandi stated that the preliminary outlook on the materials cost would be less than what was originally budgeted. To do half of the loop would be $655,000, with the remaining portion at approximately $100,000. The significant difference between the two numbers is based on the fact that all of the materials would be purchased up front (testing equipment and fiber) to ensure compatibility.

Deputy City Manager Keeter clarified that the second year would be significantly less than the first year, but it is still on target with what was projected in the capital improvement budget.

NOTE: Mayor Hitchcock left the meeting at 7:39 a.m.

Mr. Grandi noted that part of the design of the loop includes future additions, such as the fifth substation and possible connections to the fire stations. Aside from City and Electric Utility benefits, the community advantages include a robust fiber design for future community needs, additional options for businesses, improved emergency services as far as fire station readiness and reliability of communications, and reduced down time for businesses and homeowners by improving power restoration.

Council Member Hansen questioned if the City could provide this at a lower cost than if it had someone else do it, to which Mr. Vallow replied in the affirmative. Additionally, the system would be owned by the City. Reliability of telecommunications for municipal functions, including Electric Utility, must be 100%, and staff believes that can be accomplished through a variety of communications.

Council Member Hansen questioned if the design of this system factors in any concerns about sabotage or security, to which Mr. Vallow replied in the affirmative due to the redundancy of the system. Council Member Hansen concurred that having a combination of three or four technologies is the right way to go, and it also addresses the issue of whether or not the City would regret this in terms of future technology.

D. COMMENTS BY THE PUBLIC ON NON-AGENDA ITEMS

None.

E. ADJOURNMENT

No action was taken by the City Council. The meeting was adjourned at 7:54 a.m.

ATTEST:

Jennifer M. Perrin
Deputy City Clerk